

IN THE DRAWINGS:

The attached sheet of drawings include changes to the figures. In particular, Figure 1 has been amended to correctly reference the vertical supports. In addition, reference character B has been added the figure. With regard to Figure 2, the Y and Z axis have been interchanged to correctly denote the 3 axes.

Attachments: Replacement Sheet
Annotated Sheet Showing Changes

REMARKS

Favorable reconsideration of this application is respectfully requested in light of the following remarks, wherein Claims 1-2, 4-5, 7-8 and 12-13 have been amended. Currently, Claims 1-13 are pending in the present application.

As an initial matter, Claims 1-7, 9, and 11 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As a result, independent Claims 1 and 7 have been amended to remove the noted informality. Accordingly, withdrawal of rejections under 35 USC § 112, second paragraph, is respectfully requested.

Claims 1-12 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by US Patent No. 4,763,503 to *Hughes et al.* In addition, Claims 1, 2, 4, 7, 8, 11, and 13 stand rejected under 35 USC § 102(b) as allegedly being anticipated by U.S. Patent No. 5,715,718 to *Rigsby et al.*

A disclosed, nonlimiting embodiment of the present invention pertains to a method and tool for hydroforming hollow workpieces. The method includes providing a pair of upper and lower tool inserts having open axial ends and defining an elongated cavity therebetween when the tool inserts are forced together in a Z-direction by means of a tool punch. The upper and/or lower tool inserts are composed of at least two segments that are in a locked position relative to the base plate during the forming of the workpiece and in contact with a base plate on the side opposite to the cavity. A hollow workpiece is provided in the cavity. The ends of the hollow workpiece are sealed. The workpiece is filled with liquid. An internal pressure is applied to the inside of the workpiece by increasing the pressure on the liquid. The upper and lower tool inserts are moved together to deform portions of the workpiece at any time after the hollow workpiece is provided in the cavity. Inserts are in contact with the base plate on the side opposite to the elongated cavity. Movement of the

segments in the X- and Y-direction is prevented by other means than by using vertical supports acting on outer surfaces of the inserts. These features are defined in independent Claim 1.

Independent Claim 7 recites a tool for hydroforming a hollow workpiece comprising an upper and/or lower tool inserts having open axial ends and defining an elongated cavity therebetween when the tool inserts are forced together in a Z-direction by means of a tool punch. The upper and/or lower tool inserts each are composed of segments that are in a locked position relative to a base plate. The inserts are in contact with the upper and lower base plate. The tool is free from vertical supports acting on outer surfaces of the insert to prevent movement thereof in the X- and Y-direction.

Independent Claim 8 recites a tool for hydroforming a hollow workpiece comprising an upper and/or lower tool inserts having open axial ends and defining an elongated cavity therebetween when the tool inserts are forced together in a Z-direction by means of a tool punch. The upper and/or lower tool inserts each are composed of segments that are in a locked position relative to a base plate. The inserts are in contact with the upper and lower base plate. Retaining elements preventing movement of the segments extend from the base plate into cavities formed in the segments. The cavities are adapted to receive the retaining elements. None of the art of record disclose the patentable features of independent Claims 1, 7, and 8.

In contrast, *Hughes et al.* discloses an apparatus 24 which includes an upper half 26 and a lower half 28. The lower half 28 includes two end plates 30 and 32 between which are sandwiched a plurality of individual plates 34, as shown in FIG. 2. As noted by the examiner, the plates 30, 32, and 34 are considered to be the tool segments. The plates 30, 32 and 34 include various horizontally and vertically disposed retaining elements for maintaining the positioning of the plates 30, 32 and 34. However, *Hughes et al.* fails to disclose a base plate in contact with the corresponding inserts. In contrast, various retaining means in the horizontal and vertical directions are required to maintain the

positioning of the segments. *Hughes et al.* makes absolutely no mention of using base plates in contact with the inserts, as defined in independent Claims 1, 7, and 8. Accordingly, Claims 1, 7, and 8 define patentable subject matter over the *Hughes et al.* reference.

Likewise, *Rigsby et al.* fails disclose the features of the present invention. In particular, *Rigsby et al.* discloses an apparatus including an upper press platen 12 and a lower press platen 14. The platens have therebetween a tool assembly which includes an upper tool section or subassembly 16 mounted on upper platen 12 and a lower tool section or subassembly 18 mounted on lower platen 14. The upper tool subassembly 16 is segmented to comprise a plurality of axially adjacent tool segments, with endmost segments 16A and 16F and intermediate segments 16B, 16C, 16D and 16E (see Figure 17). End segments 16A and 16F are fixed to the upper platen. The other segments are movable axially. See column 4, lines 30-31 of *Rigsby et al.*

In order to retain the segments against adjacent segments, locking rings of 32A and 32F are axially shiftable toward the endmost tool segments and over the annular lockable rings 17A and 17F to securely hold closed upper tool segments 16A and 16F and lower tool segments 18A and 18 F during the workpiece end flaring step and during subsequent high-pressure hydroforming of the workpiece. These rings 32A and 32F and 17A and 17F are vertically positioned and constitute vertical supports acting on outer surfaces. These supports prevent movement in the X- and Y- directions. As such, *Rigsby et al.* fails to disclose the feature that the tool is free from vertical supports acting on the outer surfaces of the insert to prevent movement thereof in the X- and Y- directions, as defined in independent Claims 1 and 7.

In addition, *Rigsby et al.* fails to disclose retaining elements preventing movement of the segments extending from the base plates, as defined in independent Claim 8. As discussed above, the rings 32A, 32F and 17A, 17F prevent movement in the X- and Y-direction. *Rigsby et al.* makes

absolutely no mention of retaining elements for preventing movement of the segments from the base plates. Accordingly, *Rigsby et al.* fails to disclose the patentable features of independent Claim 8.

For at least the foregoing reasons, it is submitted that the method and tool of independent Claims 1, 7, and 8, and the claims depending therefrom, are patently distinguishable the applied documents. Accordingly, withdrawal of the rejections of record and allowance of this application earnestly solicited.

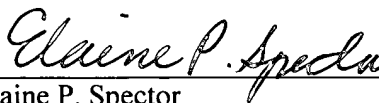
Should any questions arise in connection with this application, or should the Examiner believe a telephone conference would be helpful in resolving any remaining issues pertaining to this application, it is respectfully requested that the undersigned be contacted at the number indicated below.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0573. This paragraph is intended to be a CONSTRUCTIVE PETITION FOR EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully Submitted,

Date: August 16, 2006
DRINKER BIDDLE & REATH LLP
Customer No. 55694
1500 K Street, N.W., Suite 1100
Washington, D.C. 20005-1209
Tel. No.: 202-842-8800
EPS:mk

By:


Elaine P. Spector
Reg. No. 40,116
Attorney for Applicants
Tel. No.: (202) 842-8863
Fax No.: (202) 842-8465

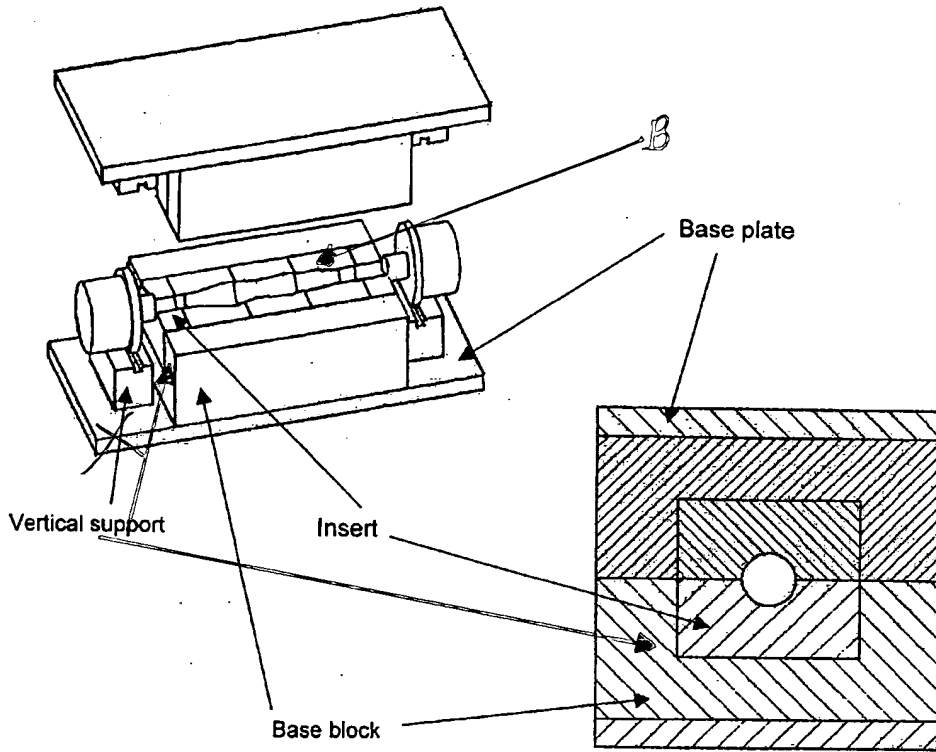


Figure 1
(Prior Art)

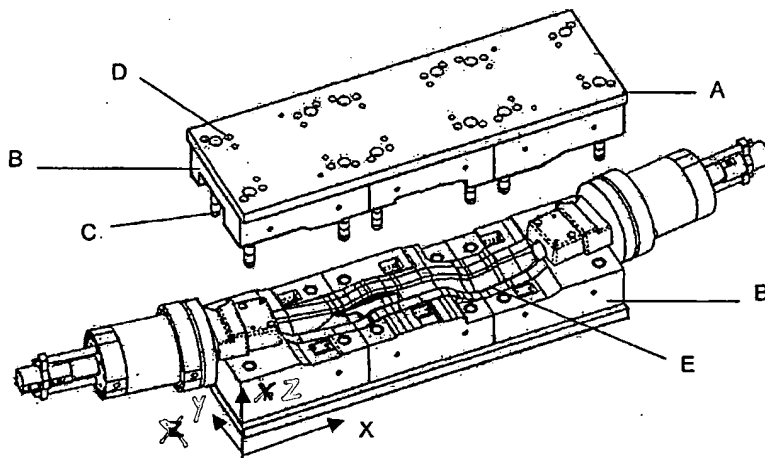


Figure 2